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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|---|-----------------------------|------------------|
| 10/797,035 | 03/11/2004 | Satoshi Kitamura | 1975.1004 | 4549 |
| 21171 | 7590 | 12/11/2007 | EXAMINER KALLIS, RUSSELL | |
| STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005 | | | ART UNIT 1638 | PAPER NUMBER |
| | | MAIL DATE 12/11/2007 DELIVERY MODE PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/797,035 | KITAMURA ET AL. |
| | Examiner | Art Unit |
| | Russell Kallis | 1638 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 25 September 2007.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2,4-7 and 9-21 is/are pending in the application.
 4a) Of the above claim(s) 3 and 8 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1,2,4-7 and 9-21 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-14 are pending. Claims 1-2, 4-7, 9-14 are examined.

Applicant is required to provide a claim identifier for Claim 5 (Original) since the claim has not been amended.

Claim Rejections - 35 USC § 102

Claims 1-2, 4 and 9 remain and new claims 15-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Wagner U. *et al.* Plant Molecular Biology, July 2002 ; Vol. 49, pp. 515-532. This rejection is maintained for the reasons of record set forth in the Official action mailed 3/07/2007. Applicant's arguments filed 9/07/2007 and 9/25/2007 have been considered but are not deemed persuasive.

Applicant asserts that the Wagner reference is improper because it was not published. Applicant is incorrect (response page 7). Applicant is confusing the unpublished remark alongside the JOURNAL entry in the attachment of the GenBank entry. The sequence was submitted directly to GenBank and was public prior to the instant filing.

Applicant asserts that the Wagner reference does not teach the use of the instantly claimed sequence (response page 7 and page 8). Applicant is not claiming "the use of" the instantly claimed sequence. Applicant's attention is directed to the annotation portion of the prior art reference of Wagner that clearly shows a glutathione S-transferase activity, see also page 516 column 1 of Wagner and Mauch lines 23-46, and thus the reference teaches a utility that also is an inherent feature of the isolated sequence namely that of sequestering structurally diverse glutathione tagged compounds (i.e. anthocyanins i.e. flavonoids into plant vacuoles); and thus the reference teaches all the limitations of claims 1-2, 4 and 9.

Claim Rejections - 35 USC § 103

Claims 1-2, 4-7 and 9-14 remain and new claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alfenito M. *et al.* The Plant Cell July 1999; Vol. 10, pp. 1135-1149 in view of Wagner U. *et al.* Plant Molecular Biology, July 2002 ; Vol. 49, pp. 515-532. This rejection is maintained for the reasons of record set forth in the Official action mailed 3/07/2007. Applicant's arguments filed 9/07/2007 and 9/25/2007 have been considered but are not deemed persuasive.

Applicant assertions with respect to the lack of publication of the instantly claimed sequence are dealt with supra.

Applicant asserts that the lack of positive result using the H36860 teaches away (response page 8). However, the state of the art as taught by Alfenito was to try the various glutathione S-transferases for their ability to complement the mutant for compartmentalization of anthocyanin into the vacuole i.e. a flavanoid and that one of ordinary skill would have appreciated the teachings of Wagner as stated supra and tested the activity of the glutathione S-transferase of SEQ ID NO: 1 to complement the mutant as taught by Alfenito to compartmentalize anthocyanin i.e. a flavonoid. Moreover, Alfenito teaches complementation of the mutant with other known glutathione S-transferases and thus teaches towards testing SEQ ID NO: 1.

One of ordinary skill would have been motivated by the success of Alfenito in both transforming plant tissue and complementing the mutant tissue with the Petunia An9 polynucleotide sequence so that it would accumulate anthocyanin; and also in isolating the anthocyanin (i.e. a flavonoid) to further test other type I GST clones. One of ordinary skill would have appreciated that other type I GST clones were readily available in the art for testing the

activity of accumulating anthocyanins (i.e. flavonoids) in transformed plant tissue and appreciated that flavonoid compounds are of value in the biotech industry. One of ordinary skill in the art would have a reasonable expectation of success given the relative ease of obtaining the publically available type I GST clones and the success of Alfenito; and that techniques for transformation and regeneration of plants were available in the art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kallis whose telephone number is (571) 272-0798. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Russell Kallis Ph.D.
November 28, 2007

RUSSELL P. KALLIS, PH.D.
PRIMARY EXAMINER

